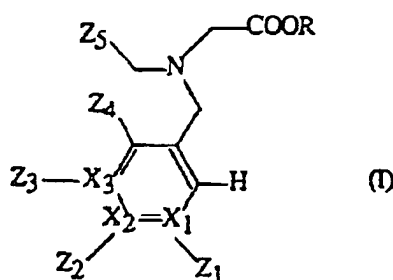


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Claims

1. Use of at least one compound of formula I

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in which:

Z_1 , Z_2 , Z_3 , independently of each other, represent NO_2 , COOH , CF_3 , a halogen atom or an R_1 , OR_1 , SR_1 or NR_1R_2 group,

Z_4 represents H or an R_1 group;

in which R, R_1 and R_2 , independently of each other, represent H or a linear or branched C_1 to C_8 alkyl group,

X_1 , X_2 , X_3 represent: $-\text{C}=\text{}$ or $-\text{N}=\text{}$, provided that

if $\text{X}_1=\text{N}$, then $\text{X}_2=\text{X}_3=\text{C}$ and there is no substituent Z_1 on X_1 ,

if $\text{X}_2=\text{N}$, then $\text{X}_1=\text{X}_3=\text{C}$ and there is no substituent Z_2 on X_2 ,

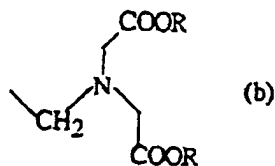
if $\text{X}_3=\text{N}$, then $\text{X}_2=\text{X}_1=\text{C}$ and there is no substituent Z_3 on X_3 ,

i.e. it is a benzene or pyridine nucleus;

Z_5 represents:

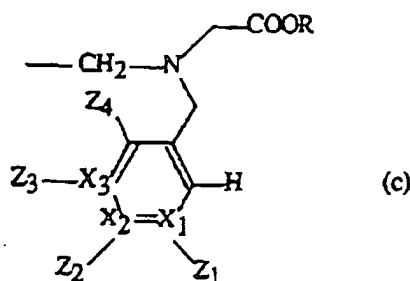
the group: $-\text{COOR}$ (a)

or the group:



or the group:

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in which Z_1 , Z_2 , Z_3 , X_1 , X_2 , X_3 , R , R_1 and R_2 have the same meanings as above; as well as their salts and their metal complexes for the preparation of a composition containing at least one compound of formula 1 and an acceptable excipient, designed for the treatment of keratinic matter and mucous membranes by the production of nitric oxide or by an increase of the production of nitric oxide in or on the skin, the mucous membranes or the scalp.

2. Use according to Claim 1, characterized in that the composition is useful for promoting the vascularisation of the skin or mucous membranes.
3. Use according to one of the Claims 1 to 2, characterized in that the composition is useful for revascularising psoriatic lesions and/or chronic ulcers.
4. Use according to one of the Claims 1 to 3, characterized in that the composition is useful for limiting pruritus and/or eczema.
5. Use according to one of the Claims 1 to 4, characterized in that the composition is useful for protecting the damage caused by ultraviolet light, like erythemas.
6. Use according to one of the Claims 1 to 5, characterized in that the composition is useful for modulating the growth of hairs or the hair.
7. Use according to one of the Claims 1 to 6, characterized in that the composition is useful for promoting melanogenesis and skin and/or hair pigmentation.
8. Use according to one of the Claims 1 to 7, characterized in that the composition is used to regulate the growth of skin bacteria.
9. Use according to one of the Claims 1 to 8, characterized in that the composition is cosmetic and designed to limit hair loss.
10. Use according to one of the Claims 1 to 9, characterized in that the cosmetic composition is useful for modulating the pigmentation of the hair.

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11. Use according to one of the Claims 1 to 10, characterized in that the cosmetic composition is an anti-age care composition designed to promote the synthesis of collagen and/or designed to limit the deposit of highly cross-linked collagen.

12. Use according to one of the Claims 1 to 11, characterized in that the cosmetic composition is useful in preparations for promoting lipolysis.

13. Use according to one of the Claims 1 to 12, characterized in that the cosmetic composition is useful for promoting the regulation of fatty skins.

14. Use according to one of the Claims 1 to 13, characterized in that the cosmetic composition is useful for promoting the regulation of sweating and associated odours.

15. Use according to one of the Claims 1 to 14, characterized in that the composition is used in cosmetic applications as a myorelaxant.

16. Use according to one of the Claims 1 to 8, characterized in that the pharmaceutical composition is useful in a treatment to combat skin mycoses.

17. Use according to one of the Claims 1 to 8 and 16, characterized in that the pharmaceutical composition is useful in a treatment to combat lupus erythematosus.

18. Use according to one of the Claims 1 to 8 and 16 or 17, characterized in that the pharmaceutical composition is useful in a treatment to stimulate the microcirculation and/or combat the Raynaud syndrome.

19. Use according to one of the Claims 1 to 8 and 16 to 18, characterized in that the pharmaceutical composition is useful in a treatment to prevent or reduce epidermal proliferation.

20. Use according to one of the Claims 1 to 8 and 16 to 19, characterized in that the pharmaceutical composition is useful in a treatment to regulate the immune system.

21. Use according to one of the Claims 1 to 8 and 16 to 20, characterized in that the pharmaceutical composition is useful for limiting hair loss and for promoting its regrowth.

22. Use according to one of the Claims 1 to 21, characterized in that the product of formula I is N,N'-bis-(3, 4, 5-trimethoxybenzyl) ethylenediamine-diacetic acid or one of its salts or metal complexes.

23. Use for the cosmetic treatment of the organism, for the purpose of

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producing or increasing the production of nitric oxide in or on the skin, the hair or the mucous membranes of a compound of formula I defined in Claim 1 or 22 or of one of its salts or metal complexes.

24. Use as NO donor of a compound of formula I defined in Claim 1 or 22 or of one of its salts or metal complexes.

25. Cosmetic treatment procedure consisting of applying to the skin, the mucous membranes and/or the scalp or of ingesting a composition containing at least one compound of formula I defined in Claim 1 or of one of its salts or metal complexes.

26. Procedure according to Claim 25, in which the composition contains at N,N'-bis-(3, 4, 5-trimethoxybenzyl) ethylenediamine-diacetic acid or one of its salts or metal complexes.